Loughborough University

This item was submitted to Loughborough's Institutional Repository (https://dspace.lboro.ac.uk/) by the author and is made available under the following Creative Commons Licence conditions.

For the full text of this licence, please go to:
http://creativecommons.org/licenses/by-nc-nd/2.5/

1

Knowledge Transfer in Offshoring Arrangements: Roles of Social Capital, Efficacy and Outcome Expectations.

ABSTRACT

Prior research has shown that social capital is as a vital factor for knowledge transfer, but has hardly examined this within an offshoring context. Moreover, the social capital lens is not sufficient for explaining motivational mechanisms of knowledge transfer. Our qualitative case study demonstrates that social capital as well as efficacy beliefs and outcome expectations affected the ability and willingness of German IT developers to transfer knowledge to their Indian offshore colleagues. We highlight interrelations between these knowledge transfer mechanisms, and we discuss results with regard to new insights for offshoring and knowledge transfer research, limitations, and practical implications.

Key words: Offshoring, knowledge transfer, knowledge sharing, efficacy, social capital, outcome expectations, social cognitive theory

INTRODUCTION

Social capital is often regarded as a crucial factor in knowledge transfer, as it affects people's ability and their willingness to transfer knowledge (Hansen, 1999; Inkpen & Tsang, 2005; Nahapiet & Ghoshal, 1998; McLure Wasko & Faraj, 2005). However, the role of social capital for knowledge transfer has hardly been examined within the offshoring context. Moreover, social capital does not provide a comprehensive explanation of knowledge transfer, in particular with regard to its motivational mechanisms. We therefore consider the influence of social capital along with efficacy and outcome expectations on knowledge transfer in an offshoring setting.

Effective knowledge transfer between organisational units has long been regarded as source of a firm's efficiency, performance, and competitive advantage (e.g. Gupta & Govindarajan, 1991; Inkpen & Tsang, 2005). Within multinational companies (MNCs), the transfer of knowledge from onshore to offshore subsidiaries becomes even an imperative. Commonly, a great amount of knowledge has to be transferred from onshore to offshore sites in order to enable offshore colleagues to complete their task. However, knowledge transfer in this setting is also particularly challenging, because offshoring arrangements create all of the classical barriers to knowledge transfer described by Szulanski (1996) - causal ambiguity, low absorptive capacity, and arduous relationship between source and recipient unit. In the case of IT development, for example, complex knowledge has to be transferred, such as application domain knowledge, which includes uncodified, tacit knowledge, and dependent knowledge, which is tied to a larger knowledge area (Dibbern , Winkler, & Heinzl, 2008; Herbsleb & Grinter, 1999; Levina & Vaast, 2008). Such complex knowledge is particularly hard to transfer across organisational units. This challenge is often paired with low absorptive capacity of the recipient unit due to a limited experience of the complex IT environment. It is

also typically hard to develop such experience over time, as employees in the offshore unit often leave the firm after a short while (Dibbern et al., 2008).

In addition, the relationship between onshore and offshore units tends to be constrained, in particular through spatial and cultural distance (Gregory, 2010) and differences in organisational and national contexts (Levina & Vaast, 2008). Social capital plays therefore a crucial role for knowledge transfer in the offshoring context. Social capital is defined as the resources embedded within, available through, and derived from an individual's or social unit's network of relationships (Nahapiet & Ghoshal, 1998: 243). The nature of networks between organisational units can facilitate or hinder knowledge transfer between these units, by affecting people's ability and their willingness to transfer knowledge. For instance, the extent of contact, and a shared normative understanding between network members affect the ease of knowledge transfer (Inkpen & Tsang, 2005: 152-3). Trust and shared organisational identity, in turn, support the willingness of network actors to share knowledge (2005: 154). Close and frequent interactions between unit members are especially important for transferring dependent and tacit knowledge, because such strong ties facilitate a detailed articulation of knowledge and allow for two way interactions that lead to multiple feedback loops (Hansen, 1999). For these reasons, social capital is particularly vital for the transfer of complex knowledge, as required in offshoring collaborations. Nevertheless, only a few researchers have applied the social capital lens to knowledge transfer in the offshoring context (Rottman, 2008).

There are important motivational determinants of knowledge transfer that social capital theory does not capture. We argue that people's willingness to transfer knowledge is also affected by their efficacy beliefs, i.e. whether they believe they are able to transfer the knowledge, and by their expectation that the transfer will lead to desirable outcomes. Such

'efficacy beliefs' and 'outcome expectations' are important motivational determinants of human behaviour, as explained by social cognitive theory (Bandura, 1997; Bandura & Wood, 1989). More precisely, 'self efficacy' is the belief in one's capabilities to organise and execute courses of actions required to manage prospective situations (Bandura, 1997). On the group level, 'collective efficacy' refers to the group's shared belief in its conjoint capabilities to organise and execute the courses of action required to produce given levels of attainment (Bandura, 1997: 477). Both forms of efficacy influence people's intention to execute the behaviour, their effort and persistence on that behaviour, and finally their mastery of the behaviour. For example, if people believe they have the ability to contribute valuable knowledge and to communicate their knowledge effectively, they are more likely to engage and persist in actual knowledge transfer (e.g. Hsu, Ju, Yen, & Chang, 2007; Kang, Kim, & Bock, 2010). If knowledge transfer is successful, this can reinforce people's efficacy beliefs and subsequent effort of knowledge transfer, leading to self-reinforcing spirals (Lindsley, Brass, & Thomas, 2005).

Outcome expectations, in turn, refer to the expected consequences of one's behaviour. If these outcomes are regarded as attractive, they motivate behaviour that is believed to lead to these outcomes (Ajzen & Fishbein, 1980: Bandura, 1997: 125). For example, the willingness to share knowledge can be increased by expected positive contributions to the performance of organisations (Bock et al., 2005).

Research on efficacy and outcome expectations in knowledge transfer is only in its beginnings. It has also not yet paid attention to the offshoring context. Moreover, only a few researchers (Chen & Hung, 2010; Chiu et al., 2006; Kang et al., 2010; Kankanhalli et al., 2005; McLure Wasko & Faraj, 2005) combine the study of efficacy or outcome expectations with aspects of social capital lens when examining knowledge sharing. Only one study, to our

knowledge, combines the social capital lens with both efficacy and outcome expectations when examining knowledge sharing (Hsu et al., 2007). This combination of the two perspectives is, however, required in order to understand the motivational determinants of knowledge transfer in more depth.

In the following sections, we will explain this argument in more detail by reviewing prior literature on knowledge sharing and knowledge transfer that addresses the role of social capital, efficacy, or outcome expectations. We then present results of our qualitative case study within a large German electronics firm. German IT developers in this firm provided in-depth accounts of their experience with Indian colleagues in an Indian subsidiary. From their reports, we derived a model that explains how social capital, efficacy, and outcome expectations affected the German's willingness and ability to transfer knowledge to their offshore colleagues. The results are discussed with regard to new insights for offshoring and knowledge transfer research, limitations, and implications for practitioners.

KNOWLEDGE TRANSFER AND SOCIAL CAPITAL

Knowledge transfer refers to the process through which one network member is affected by the experience of another (Argote & Ingram, 2000: 151). Knowledge transfer thus describes a unidirectional process that manifests itself through changes of knowledge of the recipient unit (Argote & Ingram, 2000: 15) and has to be distinguished from knowledge sharing, which describes a bi- or multidirectional process whereby two or more parties contribute knowledge (Gupta & Govindarajan, 2000). The nature of knowledge transfer depends on the type of organisational network it is embedded in, for example intracorporate networks, strategic alliances, industrial districts (Inkpen & Tsang, 2005) or virtual communities (Kankanhalli et al., 2005). Our focus is here on knowledge transfer in a particular form of intraorganisational network, namely onshore and offshore units of a multinational organisation.

A vast, and surging, amount of research has shown how social capital influences knowledge transfer. Following Nahapiet and Ghoshal (1998), researchers commonly distinguish between the structural, relational, and cognitive dimension of social capital. The structural dimension refers to the overall pattern and configuration of connections between actors (Nahapiet & Ghoshal, 1998). Within this dimension, the number of an actor's ties to other network members, the configuration of the network (e.g. hierarchy and connectivity), and network stability are particularly important for an actor's ability to access and process knowledge (Gupta & Govindaraja; 2000; Hansen, 1999; Inkpen & Tsang, 2005). It is easier to achieve high connectivity within organisations than with external organisations, for example through personnel transfers (Inkpen & Tsang, 2005). However, within an offshoring setting, geographical and cultural boundaries make it harder to create social ties (Gregory, 2010), even within the same organisation. Moreover, high employee turnover at the offshore unit often weakens network stability (Dibbern et al., 2008; Rottman, 2008). As mentioned, close and frequent interactions are particularly important for transferring tacit knowledge, which requires socialisation (Nonaka, 1994) through two-way interactions (Hansen, 1999). In offshoring settings, spatial and cultural distance limit such interactions, and therefore constrain people's ability to transfer the required tacit knowledge (Dibbern et al., 2008).

The relational dimension of social capital refers to assets created and leveraged through personal relationships (Nahapiet & Ghoshal, 1998). Important facets of relational capital are trust and trustworthiness, norms and sanctions, obligations and expectations, and identity and identification (Nahapiet & Ghoshal, 1998). 'Trust', the assessment of the partner's benevolence and competence, is crucial for people's willingness to help partners by sharing knowledge (Inkpen & Tsang, 2005; van Wijk, Jansen, & Lyles, 2008). Trust is easier to establish with members of the same organisations, where hostile competition and

opportunism are less prominent, than in trans-organisational networks (Inkpen & Tsang, 2005). However, it is harder to build trust across the geographical and cultural boundaries that exist within offshoring collaborations (Winkler, Dibbern, & Heinzl, 2008). Moreover, 'commitment trust', the expectation that the relationship will lead to mutual benefits (Newell & Swan, 2000: 1295), can be impeded by onshore employees' expectations that the transfer of tasks to the offshore destination threatens their own career paths. Onshore members may thus fear 'building their own guillotines' (Rottman, 2008: 41) through knowledge transfer.

'Norms' represent a degree of consensus in a social system. Strong cooperation norms, for example, can create expectations of openness and teamwork, which facilitate people's willingness to share knowledge (Nahapiet & Ghoshal; 1998). Knowledge sharing can also be motivated by other expectations, such as those of reciprocity.

'Identification' is the condition where values or standards of the individual merge with those of a group. It creates concern for collective outcomes and therefore motivates people's effort in transferring knowledge to help enhance the groups' outcomes (Nahapiet & Ghoshal, 1998: 256). Shared norms, expectations, and identification are all easier to achieve for members of the same organisation compared to interorganisational networks (Inkpen & Tsang, 2005). However, in offshoring settings, even within an organisation, shared norms, expectations and identification are encumberd by cultural differences, geographical distance, and contextual boundaries between organisational subunits (Levina & Vaast, 2008).

The cognitive dimension of social capital refers to the resources within relationships that provide shared representations, interpretations, and systems of meanings (Nahapiet & Ghoshal, 1998: 244). These can be part of a shared vision and culture within an organisation (Inkpen & Tsang, 2005), which serve as bonding mechanism and as shared frame of reference. Particularly the transfer of tacit knowledge relies on shared contextual

understanding. In offshoring settings, such shared understanding is hard to achieve due to different organisational and national contexts, and restrictions in face to face communication (Vlaar, Fenema, & Tiwari, 2008). This leads to characteristic difficulties in transferring tacit knowledge. To provide a typical example, a different understanding of the software environment makes it hard for onshore colleagues to write software specifications that offshore partners can comprehend and convert into adequate software coding (Dibbern et al., 2008; Herbsleb & Grinter, 1999; Herbsleb & Moitra, 2001).

In sum, social capital influences people's willingness and their ability to transfer knowledge. Whilst the structural and the cognitive dimension of social capital are most relevant for the ability to transfer knowledge, the relational dimension is particularly important for the willingness to do so. However, there are other motivational drivers of knowledge transfer that social capital theory does not capture. In the following, we will review the two of them that we are interested in, efficacy and outcome expectations.

KNOWLEDGE SHARING, EFFICACY, AND OUTCOME EXPECTATIONS

As outlined in the introduction, social cognitive theory (SCT; Bandura, 1997) suggests that efficacy and outcome expectations are important motivational determinants of human behaviour. Both have, to our knowledge, not been applied to studies of knowledge transfer, but have been used in models of knowledge sharing. We expect that these mechanisms apply also to knowledge transfer, given that knowledge transfer is a component of knowledge sharing.

A few studies investigate 'knowledge sharing efficacy', defined as the belief in one's capability to contribute valuable knowledge. In virtual communities, such efficacy has been shown to be associated with actual knowledge sharing (Chen & Hung, 2010). In firms, it has been linked to knowledge sharing intentions (Lin, 2007), open and closed knowledge transfer

(Kang et al., 2010) and the usage of an electronic knowledge repository (Kankanhalli et al., 2005). In other studies, knowledge sharing efficacy is regarded as the belief in one's capability to enact knowledge sharing behaviours, for example by using a shared knowledge system. There is evidence that this type of efficacy is related to knowledge sharing in virtual communities (Hsu et al., 2007; Kuo & Young, 2008) and to knowledge system usage in firms (Lin and Huang, 2008). In line with SCT, all of these authors assume that higher knowledge sharing efficacy motivates people to share knowledge, increase their effort, and persevere in knowledge sharing. These mechanisms are, however, inferred from quantitative associations, rather than demonstrated empirically. Qualitative research is needed for exploring these mechanisms in more depth.

Outcome expectations, the other important component of SCT, have been examined in a greater number of studies of knowledge sharing, with some mixed results. For virtual communities, Hsu et al. (2007) found that knowledge sharing is affected by personal outcome expectations, such as prospects of gaining respect or strengthening social ties, but not by expected outcomes for the virtual community, for example its continuation and growth. By contrast, Chiu et al. (2006) found that knowledge sharing in virtual communities was associated with community-related outcome expectations, but not personal outcome expectations. For commercial firms, Lin and Huang (2008) demonstrate that expectations of personal outcomes, for example image and reward outcomes, affected knowledge management system usage, but performance-related expectations did not. On the other hand, both types of outcome expectations affected knowledge withholding behaviour (Lin & Huang, 2010). To explain the role of outcome expectations, these authors draw on SCT, suggesting that the expectation of desirable outcomes motivates knowledge sharing behaviour that is seen

to lead to these outcomes. Again, a qualitative inquiry is necessary in order to describe these mechanisms in more depth.

The importance of outcome expectations for knowledge sharing is underscored by many other studies that do not refer to this concept explicitly. For example, studies of commercial firms have examined outcome expectations in terms of extrinsic motivational factors that affect knowledge sharing, such as organisational rewards and reciprocity (Bock et al., 2005; Kang et al., 2010; Kankanhalli et al., 2005; Lin, 2007), and intrinsic motivational factors, such as a sense of self-worth (Bock et al., 2005), enjoyment in helping others (Kankanhalli et al., 2005; Lin, 2007), and improving productivity and work processes (Bock et al., 2005). Of these, all apart from organisational rewards were consistently associated with knowledge sharing behaviour (Kang et al., 2010; Kankanhalli et al., 2005) or intentions (Bock et al., 2005; Lin, 2007).

SOCIAL CAPITAL, EFFICACY, AND OUTCOME EXPECTATIONS: THE INTERRELATIONS

A few studies on knowledge sharing investigate the influence of social capital as well as efficacy or outcome expectations. In commercial firms, Kang et al., (2010) exhibit that social networks alongside outcome expectations and self-efficacy affect intra-organisational knowledge transfer. With regard to virtual communities, Chiu et al. (2006) demonstrate that both social capital and community-related outcome expectations affect quantity and quality of knowledge sharing, whilst McLure Wasko and Faraj (2005) point to the influence of social capital as well as expected professional reputation outcomes. Again in virtual communities, Hsu et al. (2007) and Chen and Hung (2010) highlight the importance of trust (a component

of social capital) alongside efficacy and outcome expectations for knowledge sharing. Kankanhalli et al. (2005) show the same for trust and efficacy.

This prior research does not focus on the linkages between social capital and self-efficacy or outcome expectations. However, several links are apparent. Some of the outcome expectations discussed in the literature refer to the relational component of social capital, in particular expectations of reciprocity, strengthened ties, and friendship (Bock et al., 2005; Hsu et al., 2007; Kang et al., 2010; Kankanhalli et al., 2005; Lin, 2007). The expectation of these relational outcomes here motivates knowledge sharing, which is in turn expected to lead to these relational outcomes. In this manner, outcome expectations strengthen relational capital via their effect on knowledge sharing. The influence between outcome expectations and relational capital may even be mutual, considering Kang et al.'s (2010) evidence that expected reciprocity depends on the strength of social ties.

If outcome expectations, for example of reciprocity, are shared between sender and recipient, they are even per definition part of relational capital (Nahapiet & Ghoshal, 1998). Similarly, the expectation that a relationship will lead to mutual benefits is per definition part of commitment trust (Newell & Swan, 2000), another aspect of relational capital (Rottman, 2008). In an offshoring setting, for example, commitment trust can be low if onshore members expect that knowledge transfer will benefit offshore partners, but will undermine their own job security (Rottman, 2008). Outcome expectations and commitment trust are here two sides of the same coin. These considerations make it obvious that the interrelations of social capital with efficacy and outcome expectations should be considered in a study on knowledge transfer in offshoring settings.

Following these reflections, we present a qualitative case study that investigates whether and how social capital, efficacy beliefs, and outcome expectations can influence onshore

employees' ability and willingness to transfer knowledge to offshore colleagues. We distinguish between the structural, relational, and cognitive dimension of social capital, and we consider links of social capital with efficacy and outcome expectations.

METHODS

We carried out an interpretivist (Geertz, 1973) case study to solicit and interpret respondents' accounts of their social reality. Qualitative interviews served to provide an in-depth view of respondents' experience of knowledge transfer mechanisms in their particular offshoring setting.

Data collection

The research was set in a large German electronics firm that has close to 300,000 employees worldwide and over 18,000 in India, where software development sites have been built since the early nineties. The first author conducted thirty interviews with German engineers at German headquarters, all male apart from one, which is typical for this industry in Germany. All respondents were involved in the development of software for automotive car engines. The tasks delegated to India ranged from simple coding and software maintenance tasks to more comprehensive and innovative function development. The respondents were responsible for providing Indian colleagues with software specifications and transferring the required knowledge. These respondents were therefore highly capable of informing us on knowledge transfer in an offshoring setting.

The interviews were conducted in German and lasted 40 to 70 minutes, with an average of 58 minutes. They were all tape-recorded and transcribed in German. As part of a broader inquiry on offshoring relationships, respondents were asked to rate their German-Indian team's performance, and to describe advantages and disadvantages that the transfer of

tasks to India created for the firm, the transnational team, and German team members. These questions were particularly informative regarding the respondents' efficacy, outcome expectations, and their influence on knowledge transfer motivation. Respondents also had to evaluate their relationship with Indian colleagues, which was enlightening regarding the link between social capital and knowledge transfer. Questions were initially open, but, where necessary, complemented by probes on specific aspects of relationships drawn from the literature, such as trust and team identity.

The responses appeared very frank, which was most likely facilitated by the participants' trust in the interviewers' comprehension and impartiality. The interviewer is a German national and former employee of the firm, and may therefore have been regarded as an insider to the firm. At the same time, she was, at the time of interviewing, an academic at a British university, and did therefore not have any potential interest or influence on respondents' careers.

Data analysis

The data were analysed through an iterative process of comparison between emergent findings and theoretical concepts, in line with Klein and Meyers' (1999) principles of abstraction and dialogical reasoning. The key concepts emerged from salient comments of interviewees, and were explored systematically in the post-interviewing phase. The importance and difficulties of knowledge transfer, and the crucial role of interpersonal relationships as facilitator of knowledge transfer were mentioned spontaneously by most interviewees. When consulting the literature, the reported descriptions of relationships fitted well with the three-fold structure of social capital. The interviews also solicited clearly contrasting evaluations of knowledge transfer outcomes, for example regarding workload, tasks, and job security. Moreover, striking differences became apparent in judgments on

whether knowledge transfer was possible, which accorded with the notion of efficacy beliefs. The role of outcome expectations and efficacy for knowledge transfer motivation was mentioned by some respondents, but was also inferred from comparisons between contrasting reports. Having tentatively chosen these theoretical concepts to explain the mechanisms of knowledge transfer, we captured them in a preliminary model that described the influence of social capital, efficacy, and outcome expectations on knowledge transfer. Node lookups in NVivo then served to scan all interviews for supporting and contradictory evidence. This evidence, and key quotes, were summarised in a table, along the key concepts. A comparison between contradictory answers revealed that contextual factors, such as the employee turnover, length of experience, and managerial strategies, explained differences, which helped to expand and confirm the model. Reading through the summaries and key quotes, and iteratively comparing them to the literature on social capital, efficacy, and outcome expectations, helped to refine the model until no further modifications seemed necessary and the model was supported sufficiently by the data.

SOCIAL CAPITAL AND THE TRANSFER OF KNOWLEDGE FROM ONSHORE TO OFFSHORE PARTNERS

The reports of our participants highlighted that social capital influenced knowledge transfer through all three of its dimensions. The structural dimension impinged upon the Germans' knowledge transfer ability, the relational dimension affected both willingness and ability, and the cognitive dimension was again crucial for knowledge transfer ability. It also became clear how the three dimensions were interrelated, and how particular characteristics of the offshoring setting, namely spatial and cultural distance, organisational boundaries, high levels of offshore employee turnover, and the need to transfer tacit and complex knowledge,

impeded social capital on all three dimensions. At the same time, these offshoring characteristics created a strong need for developing social capital.

Structural dimension

With regard to the structural dimension of social capital, strength of network ties and network stability were invariably mentioned as important reasons for either difficulties or ease of knowledge transfer. According to Hansen (1999), strength of ties refers to the frequency of interaction and the (non-affective) closeness of working relationship, defined as working together 'practically like being in the same work group', or just 'discussing and solving issues together', or working at 'an arm-length's delivery of the input' (1999: 111). In our offshoring setting, both the strength of ties and relationship closeness were impeded by physical distance between onshore and offshore partners. Thus, getting to know Indian colleagues in person and working alongside them on training visits in Germany or India were, beside frequent phone calls, seen as important conditions for transferring knowledge, in particular because they helped to develop open communication, trusting relationships, and a team identity (all part of the relational dimension of social capital):

The largest part of the knowhow transfer really happened when the [Indian] colleagues were over here. ...Once you got to know the colleagues, it is a completely different togetherness, then only you have the chance of becoming a team.

Visits and frequent informal interactions, including coffee breaks and conversations over the desk tops, were also vital for developing an understanding of the Indians' knowledge requirements and creating a shared contextual understanding, which are part of the cognitive dimension of social capital.

Network instability, due to high employee turnover at the Indian plant, was a major problem for developing strong ties. Ironically, networks were often destabilised through

training visits, because such visits qualified Indians to take on more demanding roles upon their return and therefore quit their team. Neither the number of network ties nor network configuration were mentioned as issues for knowledge transfer. This is not surprising, given that knowledge was transferred between well defined partners in small work teams rather than larger networks.

Relational dimension

The interviews revealed that the relational dimension of social capital was fundamental for the Germans' ability and their willingness to transfer knowledge. Personal visits allowed Germans and Indians to develop trust and a shared team identity, which were necessary for achieving the open communication required for knowledge transfer, in particular where tacit knowledge was concerned. It was reported that Indians did typically not dare to voice their questions openly in the beginning of collaborating, but that this changed dramatically after personal visits when a trusting relationship had been built. This implies that two way interactions and feedback loops which enable people to transfer complex and tacit knowledge (Hansen, 1999) could be achieved only after creating a trusting relationship on personal visits. Moreover, visits were necessary for developing a shared team identity, as indicated above. Developing a team identity also emerged as important for the German' willingness to transfer knowledge. In a team, Germans felt responsible for enabling Indians to perform well, and put effort into knowledge transfer:

It is not the way that I do a specification some time, then send it to India and say 'you will be finished by this and that time, and when you have finished, we will look at it again and if it then does not work, I will beat you with a stick', so to say. Instead, we have regular contact, and part of this is also a certain support with regard to problems. I don't leave anyone on their own there.

However, the understanding of the German-Indian collaboration as team work was not shared by all Germans. Contractually, Indians were defined as company-internal suppliers and German colleagues as internal customers of software products. It was reported that some Germans preferred to interpret this contract in a way to treat Indians as mere suppliers rather than fellow team members, because this allowed them to stipulate results without sharing the responsibility. Germans were then free to keep knowledge transfer tasks to the necessary minimum, rather than engaging in extra effort:

That's why it is also desired by some colleagues to have a relationship in the sense of customer-supplier. One then does not have to deal with each other so closely and it also comes easier to say, in the case of problems: 'The [Indian] colleague has not delivered, my supplier, I couldn't do anything. …We would have done that much better, over here.' The dissociation is then much easier. …and it is then harder to motivate [Germans] to transfer knowhow, to enable [Indian] people or give them advice on how they could do things better… One rather tends to say: 'You, customer, just do it, I'm not interested in the way you do it, but I want the following result.'

This refusal to build relational capital with Indian colleagues cannot be explained by social capital theory alone, but only by looking additionally at the Germans' knowledge transfer efficacy and their outcome expectations, as described later on. Respondents also explained that the Indian cultural conception of a mere customer-supplier relationship was different to the Germans' own understanding, in that Indians felt suppliers had to fulfil customer demands unquestionably and had to avoid asking for clarifications. Such behaviour further restricted the Germans' ability to transfer knowledge, especially tacit knowledge, within a customer-supplier relationship.

Cognitive dimension

The cognitive dimension of social capital impinged upon the Germans' ability to transfer knowledge, especially regarding complex and tacit knowledge. Due to their different organisational and national environment, Indians and Germans did not have the same contextual understanding of head office strategies, of the customers' requirements, of the software system domain, and of the application domain. It was often explained that a great deal of tacit knowledge was therefore necessary, particularly to understand the application of the software in the end product, the automotive engine:

We actually bring that with us, from the cradle. Because we become familiar with a car from small onwards. … In a way, one laughs about Indians sitting in a car and not even being able to distinguish automatic from manual gears. … Over here, that's easy. Well, you just learn it at some stage and know it, and then it is taken for granted knowledge. But for our Indians, who usually simply sit on the motorcycle or so, and not in a car, they simply don't know that.

The lack of shared contextual understanding lead to difficulties both in encoding and decoding relevant information. As Germans were, naturally, not conscious of their tacit knowledge, they tended to provide insufficient information, for example in their software specifications.

The problem is that, over here, we have the background and take many things for granted, because everyone here knows it. But it does not come to you that India has never heard of it. You only notice this if there is a query somewhere, or if something goes wrong.

Germans therefore had to learn what background information had to be included in their highly detailed software specifications:

You can't expect us to…pass over a kind of draft where you simply say: 'that must be obvious, that's enough for me'. I could make a function out of that, an Indian person can't. Because he lacks that system background. They don't even drive a car, after all.

The differences in contextual understanding became obvious when Indians had misinterpreted German specifications, which could lead to faults in the final software product:

We have some examples here, where we have delivered faulty software … which was in India, however, converted one to one according to our specifications. We have written it in that way and you can interpret it in that way. … That's just the question: Who is it now? The one you has done the specification, or the one who has not questioned it?

The difficulties of knowledge transfer created through the cognitive dimension of social capital underscore the importance of the other two dimensions. In order to develop a shared contextual understanding (cognitive dimension), it was necessary to transfer contextual, complex, and tacit knowledge, and this was only possible if Indians and Germans interacted on visits (structural dimension) and thereby developed a trusting relationship and a team identity (relational dimension).

The influence of the three dimensions of social capital on knowledge transfer ability and willingness is captured in the upper part of Figure 1. The figure also illustrates the role of efficacy and outcome expectations, which will explained in what follows.

Insert Figure 1 about here

THE ROLE OF EFFICACY AND OUTCOME EXPECTATIONS

Our results revealed that collective efficacy, self-efficacy, and outcome expectations were important motivational mechanisms of knowledge transfer besides social capital. It also

became clear that they were interconnected with social capital, and that they were tied to certain characteristics of the offshoring setting.

Efficacy

The Germans' willingness to transfer knowledge was subject to their collective knowledge transfer efficacy, defined as their shared belief in their group's conjoint capabilities to organise and execute the courses of action required to produce given levels of attainment (Bandura, 1997: 477). More specifically, Germans varied in their belief that their team could transfer knowledge in a way to achieve the required levels of knowledge on the Indian side[1]. This collective knowledge transfer efficacy depended on the Indian counterparts' perceived ability to absorb and process required knowledge, i.e. their absorptive capacity. Due to the aforementioned limits of contextual understanding, absorptive capacity was in many cases low, and it was therefore often seen as impossible to achieve sufficient levels of knowledge within the given time frame. This low efficacy lead to reduced efforts in knowledge transfer:

In the sense of: Well, that will never work, why should I put a lot into it.

Other respondents, however, stressed that it was possible to overcome initial hurdles of knowledge transfer, as long as sufficient effort was spent on knowledge transfer at start of the collaboration.

… [German] colleagues also have to be aware that it takes some time until the collaboration works smoothly, and that you have to approach people [in India]… and this takes time. …You easily have to allow for half a year, or rather a year, until you see the benefit. Until the colleague also realises: 'OK, something is coming back here, this really is useful for me.'

---

[1] The level of knowledge on the Indian side is thus defined as the performance marker for knowledge transfer behaviours, rather than as an outcome (see Bandura, 1997, p.23). This justifies our interpretation of the belief in the group's capability to transfer knowledge as collective efficacy and not as outcome expectation.

The differences in respondents' efficacy beliefs are not surprising, given the variations in the levels of employee turnover on the Indian side, which allowed for building up sufficient knowledge in some groups, but not others. Some Germans had initially spent considerable effort in training Indian colleagues and developing the relationships and shared contextual understanding required for knowledge transfer. After this, the Indians colleagues had left their team or even the firm, and this effort was wasted. These Germans were now frustrated, no longer believed that knowledge transfer was possible, and had therefore limited their knowledge transfer effort.

There is of course also the weariness factor. …There was simply the opinion: 'Well, why should I explain it to him now, once again. He will just be gone anyway, in half a year's time.'

As mentioned before, one way of limiting one's knowledge transfer effort was to treat Indian colleagues as mere suppliers rather than fellow team members. In this manner, knowledge transfer efficacy affected the relational dimension of social capital, as indicated in Figure 1. Knowledge transfer efficacy seemed to improve, however, with the length of working with Indian colleagues. Having experienced successful knowledge transfer over time, Germans were seen to be more optimistic about knowledge transfer, even in the face of difficulties:

Someone who has already worked with India for a longer time will then say: Fine, it works also better. I have already experienced it better.…Someone who has to work with India for the first time … does not have a great tolerance for mistakes.

Efficacy was also important as far as intercultural communication was concerned. Germans varied in their belief in their capability to overcome intercultural communication barriers, such as speaking English, or understanding the Indians' indirect communication style. This communication-related self-efficacy influenced the extent to which Germans were willing to

engage in intercultural communication, which was of course part of knowledge transfer. By affecting communication, intercultural communication efficacy also impinged upon the development of trust and team identity, which are part of the relational dimension of social capital.

Both knowledge transfer efficacy and intercultural communication efficacy lead to vicious and virtuous circles, in line with prior efficacy studies that demonstrate circles of efficacy, behaviours, outcomes, and efficacy (Bandura & Wood, 1989). In our inquiry, intercultural communication efficacy reinforced actual communication with Indian colleagues and increased the chances to practice and thereby improve intercultural communication. Likewise, the belief that effective knowledge transfer was possible could increase the Germans' willingness to transfer knowledge and spend effort on it. Thereby, knowledge on the Indian side had a chance to improve to a satisfactory level, and the efficacy belief was therefore reinforced. This circle is highlighted as circle one in Figure 2. Conversely, lack of support reinforced poor performance and low efficacy, and could even encourage Indians to leave the project, which further perpetuated the circle:

Well, I assume that if you show someone how it works, what mistakes he is making, make clear to him what he is doing wrong, that only then you can gain a profit from it. If we never show him, then he will never learn it and he also won't understand it and maybe feel treated unjustly and left out. … Then he will change after three years, because he can't stand it any longer, and then a new one comes in, and then the project will never get anywhere.

Such self-perpetuating circles can be described in a more differentiated manner by adding the complimentary social capital lens. As mentioned, knowledge transfer efficacy affected the willingness and thus effort of knowledge transfer. Such knowledge transfer effort was also necessary for developing trust and shared team identity (part of the relational dimension of

social capital), which are in turn important for knowledge transfer ability and willingness, with their consequences for knowledge transfer effort and knowledge improvements, as well as renewed efficacy (circle 2 in Figure 2). Knowledge improved also with regard to a shared contextual understanding, which is part of the cognitive dimension of social capital, and a prerequisite for people's knowledge transfer ability (circle 3 in Figure 2).

Insert Figure 2 about here

Outcome expectations

As mentioned before, outcome expectations refer to the expected consequences of behaviour. If these outcomes are perceived as attractive, they motivate behaviour that is believed to lead to these outcomes (Ajzen and Fishbein, 1980; Bandura, 1997: 125). In our study, German IT developers held the unanimous view that knowledge transfer was a prerequisite for achieving required performance outcomes. Performance problems were, conversely, consistently explained by the difficulties of transferring knowledge. For these reasons, the expectations of desired performance outcomes can be regarded as a prime motivator of knowledge transfer. However, respondents held mixed views on other outcomes of knowledge transfer, namely the resulting workload, task characteristics, and job security.

The workload created by knowledge transfer was an important topic in all interviews, in terms of the effort and time needed for answering questions and training. However, the respondents held different views on whether workload would increase continuously despite knowledge transfer, or knowledge transfer would help alleviate one's workload in the long run, by enabling Indians to complete tasks independently. The difference in views seemed to result mostly from the respondents' length of experience, and from their different foci on

either absolute workload or the ratio between additional workload and workload saved through the transfer. In most cases, Germans transferred their knowledge despite the extra effort, because this was the only way to achieve any improvement over time. In several cases, however, knowledge transfer was circumvented by avoiding the transfer of tasks altogether. In this manner, workload expectations did affect people's willingness to transfer knowledge.

Well, in the beginning, you were actually a bit frustrated and said 'Oh, it really gets on my nerves. I have easily spent three times longer on explanations than if I had done it myself. What does it give me, after all?' And then you really started to do sums: 'Well no, this task I will not give to India at all, it does not make sense. By the time I have explained it, by the time they have they have understood it - It won't work that way.' And then you did see team members here in Germany who said: ,No, I don't like it now, I don't like to transfer this, that won't work, that's too hard for me.

On the other hand, more experienced respondents had learned to distinguish between necessary and superfluous questions from the Indian side. Many reported on a lack of knowledge transfer within the Indian plant, causing Indian colleagues to address most questions directly to German counterparts, rather than asking their Indian colleagues in the same office. The Germans were then not willing to answer unnecessary questions. They refused to respond, in order to force Indians to manage their knowledge better within the subsidiary. In some cases, such limitations in knowledge transfer created tensions between German and Indian colleagues, thus affecting the relational dimension of social capital as far as team identity and shared expectations were concerned:

There is currently the demand from the responsible [Indian] department leader, with a long list of topics, and 'Here the Indian colleagues would like to be instructed, please'. … I

don't have the capacity for that. I also don't agree with it. This is currently a kind of topic of argument, where opinions clearly diverge.

As mentioned before, some Germans also tried to avoid the workload of knowledge transfer by treating Indian colleagues as mere suppliers who had to deliver results, rather than fellow team members. In this manner, a shared team identity, as part of the relational dimension of social capital, was not developed. In a few cases, Germans who were frustrated by the workload had even contributed actively to an Indian colleague's failure by not providing necessary knowledge, in order to create an argument against the transfer of tasks to India.

Maybe you have noticed that he [the Indian colleague] hasn't really understood, but you do not tell him. Then he will take forever. You get no output, and in the end you do it yourself. That's the solution: 'I'll just do it myself then, even if I work overtime.' Then you will be able to say afterwards: 'This doesn't work, does it.

Respondents also reflected on outcomes of knowledge with regard to the tasks and the jobs of German IT developers. Some respondents were involved in the development of highly innovative products that created a vast amount of challenging new tasks for the German side. These respondents explained that the transfer of knowledge to India created the opportunity to offshore current, less challenging tasks and focus on new, more attractive tasks:

…we can concentrate on conceptual work, developing test concepts, plan tests, I'd like to call it test philosophy. There is the chance that you can offshore standard tasks or that you have more time for those tasks that go into more detail, require more experience."

Given such innovative products, there were ample job opportunities in the department. Germans did therefore not feel that supporting the task transfer by transferring knowledge would threaten German jobs. Others, however, were working on highly developed products that created fewer opportunities for new, innovative tasks. Consequently, Indian and German

colleagues were competing for these desirable components. Transferring knowledge then meant enabling Indians to take on an increasing share of the attractive tasks, with a potential threat of making Germans redundant. Fears that the transfer would endanger one's own job were particularly strong when management had not communicated clear offshoring strategies and plans for German tasks in the future. Such outcome expectations reduced some Germans' willingness to transfer necessary knowledge.

I also see that colleagues here don't necessarily have the motivation to train Indian colleagues properly, which is also because ... if one suddenly says, in a running project where India was never planned for: 'Listen, from tomorrow there will also be two Indians', then there will first of all be disconcertion in the German team. They will say: 'What's that for? Will my job be transferred to India? What are they actually doing?'

It is obvious that the competition for tasks, and the fear of offshoring one's own job, meant that Germans and Indians pursued partly different interests. This inhibited the development a shared team identity as part of the relational dimension of social capital, as indicated by the left hand arrow in Figures 1 and 2. Conversely, however, the degree to which negative outcome expectations regarding German jobs affected knowledge transfer depended on social capital, namely personal relationships between Germans and Indians, developed through personal visits (see Figures). After getting to know each other in person, Germans were seen to put more effort into knowledge transfer, even if they feared for their jobs and expected that extensive knowledge transfer was required:

[Interviewer: How motivated are German colleagues to try and communicate and transfer knowledge …?] It works, if they know each other in person. That's incredibly motivating. Otherwise it is: 'The Indian has not clue about anything, but is supposed to do my work.' There is of course, everywhere, the overtone of the fear 'My job will go.' [Interviewer: And if

they know each other?] Then it is easier, because then you can see that the colleague over

there has trouble doing his work, he lacks something. And then you see yourself in him and …

simply picture him in a certain way, and the readiness to help is simply greater.

Interrelations of social capital, efficacy, and outcome expectations

Our model, and the described circles in particular, imply a great number of ways in which social capital, efficacy, and outcome expectations were interlinked (see Figure 2). Firstly, they all impinged upon knowledge transfer success, either through willingness or ability. This success, in turn, impinged back upon efficacy, and on the cognitive dimension of social capital. Success thereby also fed into the self-reinforcing circles attached to efficacy (circle 1 in Figure 2) and the cognitive dimension of social capital (circle 2 in Figure 2). To be more specific, the relational and structural dimension influenced the cognitive dimension of social capital through their impact on knowledge transfer success. All dimensions of social capital influenced efficacy, and both efficacy and outcome expectations affected the cognitive dimension of social capital. Secondly, efficacy and outcome expectations had an indirect impact on the relational dimension of social capital, by influencing people's willingness and therefore effort in transferring knowledge. Efficacy and outcome expectations therefore fed into the circle of the relational dimension (trust and team identity) with knowledge transfer willingness and ability (circle 2 in Figure 2). Finally, outcome expectations regarding workload, tasks, and jobs shaped trust and team identity directly. These interrelations underscored the importance of social capital in conjunction with efficacy and outcome expectations for the study of knowledge transfer.

DISCUSSION

Contributions to research

The purpose of this study was to advance our understanding of knowledge transfer in an offshoring context, by combining the lenses of social capital, efficacy, and outcome expectations. Our findings confirmed previous observations that social capital influences knowledge transfer (e.g. Inkpen & Tsang; 2005; van Wijk et al. 2008). Moreover, as one of the first studies besides Rottman (2008), our research highlights how social capital is particularly important, and, at the same time, especially difficult to achieve in an offshoring setting. The German IT developers' knowledge transfer ability and willingness improved once the barriers created by spatial and cultural distance, geographical boundaries, and offshore employee turnover were overcome. More specifically, Germans were more able and willing to transfer knowledge if they had met and built relationships with Indian colleagues, and if these colleagues continued to work in the team. The offshoring-specific barriers were particularly important because a large amount of tacit knowledge had to be transferred in this context.

Furthermore, our study confirmed our argument that efficacy and outcome expectations influence knowledge transfer. As mentioned, these concepts have, to our knowledge, not been used in prior offshoring research, and only rarely in studies on knowledge sharing in other settings. The respondents' efficacy and outcome expectations were shaped heavily by the offshoring context. Knowledge transfer efficacy and outcome expectations regarding workload improvements were impeded by geographical and contextual distance, particularly because tacit knowledge had to be transferred. Those Germans who did not believe that successful knowledge transfer was possible justified this mainly by contextual factors such as the lack of informal interactions, shared understanding, high turnover, etc. The international context also came into play where differences in language and communications styles created low intercultural communication efficacy. Likewise, outcome expectations regarding tasks and jobs were relevant only because Germans and Indians were collaborating

within an offshoring arrangement, which could lead to a competition for interesting tasks, and fears of job losses.

The observation that the offshoring context affected knowledge transfer brings home the point that knowledge transfer mechanisms vary with different collaborative contexts (see Inkpen & Tsang, 2005, Rottman, 2008). As knowledge transfer is particularly vital in the offshoring context, it is important to consider all major mechanisms that govern knowledge transfer in this setting. Our study reveals that not only social capital, but also efficacy and outcome expectations should be amongst them.

Our distinction between the ability and the willingness to transfer knowledge allowed us to explain knowledge transfer mechanisms in a great amount of detail. It allowed us to distinguish between the influences of the three dimensions of social capital on either ability or willingness of knowledge transfer, or both. Moreover, we were able to highlight that efficacy and outcome expectations are motivational mechanisms of knowledge transfer, because they did not affect the ability, but only the willingness to transfer knowledge. Whilst the division between knowledge transfer ability and willingness has been introduced more than a decade ago (Hansen, 1999), it is not commonly made in research on knowledge sharing or transfer. Inkpen and Tsang (2005), for example, discriminate between motivation and ability to transfer knowledge in some places when explaining social capital mechanisms, but they do not address this distinction systematically. Most empirical studies simply examine actual knowledge transfer. This measure taps only on outcomes of the psychological mechanisms involved in knowledge transfer, rather than the psychological mechanisms per se.

In terms of mechanisms, the self-perpetuating circles that we found deserve special attention. The circle regarding efficacy, knowledge transfer willingness, effort, and success (circle 1 in Figure 2) is not surprising, given that research on efficacy in various other

contexts has described self-reinforcing circles of efficacy and performance (Bandura & Wood, 1989; Lindsley et al., 1995). This circle implies that efficacy has more than just a single, linear effect on knowledge transfer, but perpetuates itself, as long as the external context factors (e.g. employee turnover) do not change dramatically. This mechanism generates an even stronger, longer lasting influence of efficacy on knowledge transfer, which underscores our argument that efficacy plays an important role in knowledge transfer.

We identified further circles with regard to social capital. The relational dimension of social capital affected knowledge transfer willingness, and through this, effort, which in turn contributed to trust and shared team identity (circle 2 in Figure 2). Moreover, the cognitive dimension of social capital was part of a circle in that the level of shared contextual understanding affected knowledge transfer ability, and through this, the change in contextual knowledge (circle 3 in figure 2). These circles of social capital and knowledge transfer accord with Nahapiet and Ghoshal's (1998) model of social capital and the creation of intellectual capital, which includes a feedback relationship between 'new intellectual capital created…' and the three dimensions of social capital (1998: 251). Referring to the literature on self-reproducing social practices (Brown & Duguid, 1991; Giddens, 1984), Nahapiet and Ghoshal posit that social and intellectual capital co-evolve in mutually dependent and interactive ways (1998: 259-260). Nahapiet and Ghoshal assume that emerging shared knowledge shapes not only the cognitive dimension of social capital, in terms of shared understanding, but also the nature of the relational and structural dimensions. Our distinction between knowledge transfer ability versus willingness allowed us to establish a more differentiated picture. We found that the cognitive dimension was reinforced through its impact on ability and thereby success of knowledge transfer, whilst the relational dimension of social capital perpetuated itself through its impact on the willingness and consequent effort in knowledge transfer.

Limitations

      The circles that we found signify that linear models like ours are necessarily limited when it comes to complex social and psychological phenomena. As argued by configuration theory (e.g., Meyer, Tsui, & Hinings, 1993; Zimmermann, 2011), complex social processes (like knowledge transfer in offshoring arrangements) tend to consist of complex constellations of mutual influences rather than unidirectional dependencies. Nevertheless, we chose a model of largely linear influences for this study, because it represents the perspectives of our participants most adequately. Our respondents had clear views on causal relationships, and these are portrayed in our model. It is however important to keep in mind that this model is a simplification of the described social reality.

      One of the main contributions of this study is to provide an in-depth, qualitative view of the mechanisms by which social capital, efficacy, and outcome expectations influence knowledge transfer ability and willingness. These concepts are, however, grounded in a long tradition of quantitative research, using measurement through Likert scales (see Bandura, 1997 for a review on efficacy and outcome expectations) and network analysis (e.g., Hansen, 1999; Tsai & Ghoshal, 1998 regarding social ties and capital). For further triangulation, it would therefore be possible to use well-established quantitative measures of the constructs to complement qualitative research. Qualitative data could thereby be scrutinised and could in turn help to explain quantitative results.

      Qualitative case research cannot aim at generalisability. Instead, it should set the ground for transferability (Lincoln & Guba, 2002). We do this by exposing how the responses were tied to the particular firm context, thereby allowing other researchers to investigate the transferability to other, analogous contexts. I would be particularly informative to explore whether similar mechanisms of knowledge transfer can be found in other industries and

national contexts. For example, different combinations of offshore and onshore countries are likely to create different intercultural challenges that affect social capital. Moreover, manufacturing industries may rely to a smaller extent on tacit knowledge. This may alleviate knowledge transfer, leading to more positive efficacy and outcome expectations. Nevertheless, the principles of social capital, efficacy, and outcome expectations are still likely to pertain in these other contexts.

Implications for practitioners

Our findings highlight that managers should pay attention not only to their employees' ability to transfer knowledge to an offshore destination, but also to their willingness to do so. In the participating firm, several mechanisms were in place to support knowledge transfer ability, for example technology, coordination meetings, and personal visits. By contrast, the Germans' varying motivation to transfer knowledge was not always addressed. Some managers did not provide sufficiently clear perspectives and plans for the future of Germans' tasks and careers. Clear and well communicated strategies of this sort are however necessary in order to avoid insecurity and fears of negative knowledge transfer outcomes.

The divergence of efficacy and outcome expectations between more and less experienced employees suggest that an exchange of experience between departments is crucial, not only to support the ability of transferring knowledge, but also to achieve more positive expectations and efficacy, even in the face of initial difficulties. A direct comparison was in this case possible between a department that had started collaborating with India about 15 years ago, and a department which was just starting to offshore significant amounts of tasks. Members of the latter departments were described not only as less capable of transferring knowledge, for example with regard to transferring background information, but

they were also seen to be more sceptical regarding the potential success of the transfer, and therefore less willing to engage in it.

The study suggests apparent external constraints to knowledge transfer in an offshoring setting, foremost employee turnover at the offshore unit, and a lack of experience with cars in the Indian context. At the same time, our findings convey the message that success of knowledge transfer was determined not just by external circumstances, but also by employees' own effort. This should encourage employees who are tasked with knowledge transfer to be more optimistic about its potential success, thus develop better knowledge transfer efficacy, because this can contribute to knowledge transfer success. In conclusions, both managers and employees can make a difference to knowledge transfer in an offshoring setting, if they deal adequately with social capital as well as efficacy and outcome expectations.

REFERENCES

Ajzen, I., & Fishbein, M. 1980. *Understanding attitudes and predicting social behavior*. Englewoods-Cliffs, NJ: Prentice-Hall.

Argote, L., & Ingram, P. 2000. Knowledge transfer: A basis for competitive advantage in firms. *Organizational Behavior and Human Decision Processes*, 82(1): 150-169.

Bandura, A. 1997. *Self-efficacy: The exercise of control*. New York: W.H. Freeman.

Bandura, A., & Wood, R. 1989. Effect of perceived controllability and performance standards on self-regulation of complex decision making. *Journal of Personality and Social Psychology*, 56, 805-814.

Bock, G.-W., Zmund, R.W., & Kim, Y.-G. 2005. Behavioral intention formation in knowledge sharing: Examining the roles of extrinsic motivators, social-psychological forces, and organizational climate. *MIS Quarterly*, 29(1): 87-111.

Brown, J.S., & Duguid, P. 1991. Organizational learning and communities-of-practice: Toward a unified view of working, learning and innovation. *Organization Science*, 2: 40-57.

Chen, Ch.-J., & Hung, Sh.-W. 2010. To give or to receive? Factors influencing members' knowledge sharing and community promotion in professional virtual communities. *Information and Management*, 47: 226-236.

Chiu, Ch.-M., Hsu, M.H., & Wang, E.T.G. 2006. Understanding knowledge sharing in virtual communities: An integration of social capital and social cognitive theories. *Decision Support Systems*, 42: 1872-1888.

Dibbern, J., Winkler, J., & Heinzl., A. 2008. Explaining variations in client extra costs between software projects offshored to India. *MIS Quarterly*, 32(2): 333-366.

Geertz, C. 1973. *The interpretation of cultures*. New York: Basic Books.

Giddens, A. 1984. *The constitution of society: Outline theory of structuration.* Cambridge, England: Polity Press.

Gregory, R. 2010. Review of the IS offshoring literature: The role of cross-cultural differences and management practices, *Proceedings of the 18th European Conference on Information Systems*, Pretoria, South Africa.

Gupta, A.K., & Govindarajan, A. 2000. Knowledge flows within multinational cooperations. *Strategic Management Journal*, 21: 473-496.

Hansen, M.T. 1999. The search-transfer problem: the role of weak ties in sharing knowledge across organization subunits. *Administrative Science Quarterly*, 44: 82-111.

Herbsleb, J.D., & Grinter, R.E. 1999. Splitting the organization and integrating the code: Conway's law revisited. *Proceedings of the International Conference on Software Engineering, Los Angeles, CA, May 16-22*: 85-95.

Herbsleb, J.D., & Moitra, D. 2001. Global Software Development. *IEEE Software*, 16-20.

Hsu, M.-J., Ju, T.L., Yen, Ch.-H., & Chang, Ch.-M. 2007. Knowledge sharing behaviour in virtual communities: The relationship between trust, self-efficacy, and outcome expectations. *International Journal of Human-Computer Studies*, 65: 153-169.

Inkpen, A.C., & Tsang, E.W.K. 2005. Social capital, networks, and knowledge transfer. *Academy of Management Review*, 30(1), 146-165.

Kang, M., Kim, Y.-G., & Bock, G.-W. 2010. Identifying different antecedents for closed vs. open knowledge transfer. *Journal of Information Science*, 36(5): 585-602.

Kankanhalli, A., Tan, B.C.Y., & Wei, K.-K. 2005. Contributing knowledge to electronic knowledge repositories: An empirical investigation. *MIS Quarterly*, 29(1):113-143.

Klein, H.K., & Myers, M.D. 1999. A set of principles for conducting and evaluating interpretive field studies in information systems. *MIS Quarterly*, 23(1): 67-94.

Kuo, F.-Y., & Young, M.-L. 2008. A study of the intention-action gap in knowledge sharing practices. *Journal of the American Society for Information Science and Technology*, 59(8): 1224-1237.

Levina, N., & Vaast, E. 2008. Innovating or doing as told? Status differences and overlapping boundaries in offshore collaboration. *MIS Quarterly*, 32(2): 307-332.

Lin, H.-F. 2007. Effects of extrinsic and intrinsic motivation on employee knowledge sharing intentions. *Journal of Information Science*, 33(2): 135-149.

Lin, T.-Ch., & Huang, Ch.-Ch. 2010. Withholding effort in knowledge contribution: The role of social exchange and social cognitive on project teams. *Information and Management*, 47: 188-196.

Lincoln, Y.S., & Guba, E.G. 2002. Judging the quality of qualitative case study research. In A.M. Huberman & M.B. Mathews (Eds.) *The qualitative researcher's companion:* 205-216. London: Sage.

Lindsley, D.H., Brass, D.J., & Thomas, J.B. 1995. Efficacy-performance spirals: A multilevel perspective. *Academy of Management Review*, 20(3): 645-678.

McLure Wasko, M., & Faraj, S. 2005. Why should I share? Examining social capital and knowledge contribution in electronic networks of practice. *MIS Quarterly*, 29(1): 35-57.

Meyer, A.D., Tsui, A.S., & Hinings, C.R. 1993. Configurational approaches to organizational analysis. *Academy of Management Journal*, 36(6): 1175-1195.

Nahapiet, J., & Ghoshal, S. 1998. Social capital, intellectual capital and the organizational advantage. *Academy of Management Review*, 23(2): 242-266.

Newell, S., & Swan, J. 2000. Trust and inter-organizational Networking. *Human Relations*, 53(10): 287-328

Nonaka, I. 1994. Dynamic theory of organizational knowledge creation. *Organization Science*, 5(1): 14-37.

Rottman, J.W. 2008. Successful knowledge transfer within offshore supplier networks: a case study exploring social capital in strategic alliances. *Journal of Information Technology*, 23: 31-43.

Szulanski, G. 1996. Exploring internal stickiness: impediments to the transfer of best practice within the firm. *Strategic Management Journal*, 17: 27-43.

Tsai, W., & Ghoshal, S. 1998. Social capital and value creation: The role of intrafirm networks. *Academy of Management Journal*, 41(4): 464-476.

Van Wijk, R., Jansen, J.J.P., & Lyles, M.A. 2008. Inter- and intra-organizational knowledge transfer: A meta-analytic review and assessment of its antecedents and consequences. *Journal of Management Studies*, 45(4): 830-853.

Vlaar, P.W.L., Fenema, P.C., & Tiwari, V. 2008. Cocreating understanding and value in distributed work: How members of onsite and offshore vendor teams give, demand, and break sense. *MIS Quarterly*, 32(2): 227-255.

Winkler, J., Dibbern, J., & Heinzl, A. 2008. The impact of cultural differences in offshore outsourcing. Case study results from German-Indian application development projects. *Information Systems Frontiers*, 10, 243–258.

Zimmermann, A. 2011. Interpersonal relationships in transnational, virtual teams – towards a configurational perspective. *International Journal of Management Reviews,* 13(1): 59-78.

FIGURE 1

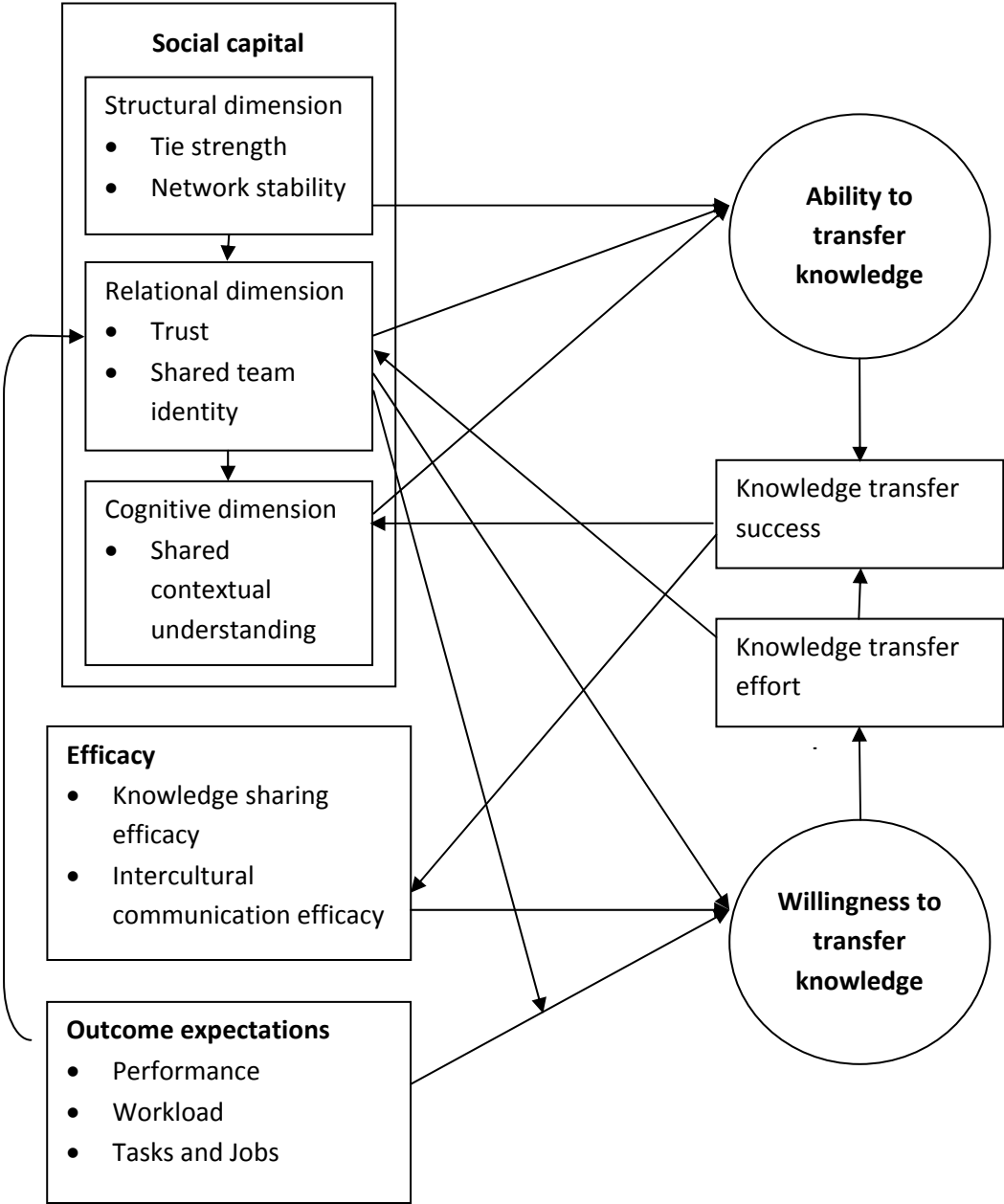**Social capital, efficacy, outcome expectations, and knowledge transfer**

FIGURE 2

Extended model: Circles of influence